



PCT/ KR 2003/001048

29 DECEMBER 2003

WHAT IS CLAIMED IS :

1. (AMENDED) A process for preparing high molecular weight polycarbonate

resin comprising the steps of:

a) melting dialkyl(aryl)carbonate and aromatic hydroxyl compound

5 and conducting transesterification thereof to prepare low molecular weight  
amorphous polycarbonate prepolymer with weight average molecular  
weight of 1,500 ~ 15,000 g/mol;

b) conducting condensation polymerization of the a) low molecular  
weight amorphous polycarbonate prepolymer under pressure of 0 ~ 50  
10 mmHg or nitrogen gas in an amount of at least 0.1 Nm<sup>3</sup>/kg·h for 2 ~ 120  
minutes to prepare middle molecular weight polycarbonate with weight  
average molecular weight of 20,000 ~ 30,000 g/mol and remove  
unreacted dialkyl(aryl)carbonate and by-products of low polymerization  
degree less than 3 in step a);

15 c) conducting solvent-induced crystallization of the b) middle  
molecular weight amorphous polycarbonate to prepare semi-crystalline  
polycarbonate; and

29 DECEMBER 2003

d) conducting solid state polymerization of the c) semi-crystalline polycarbonate to prepare high molecular weight polycarbonate with weight average molecular weight of 35,000 ~ 200,000 g/mol.

2. (CANCELED)

- 5 3. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the b) condensation polymerization is conducted in a reactor selected from a group consisting of a rotating disk reactor, rotating cage reactor and a thin film reactor.
4. The process for preparing high molecular weight polycarbonate resin  
10 according to Claim 1, wherein the mole ratio (r) of diarylcarbonate and aromatic hydroxy compound of the middle molecular weight amorphous polycarbonate prepared in step b) is in the range of  $0.9901 \leq r < 1.000$
5. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the d) solid state polymerization is conducted  
15 within 2 hours.